

## REPTILIA: SQUAMATA: COLUBRIDAE

## CARPHOPHIS

## Catalogue of American Amphibians and Reptiles.

Ernst, C.H., J.M. Orr, and T.R. Creque. 2003. *Carphophis*.

***Carphophis* Gervais**  
Wormsnakes

*Carphophis* Gervais 1843:191. Type species, *Coluber amoenus* Say 1825:237, by original designation.

*Carphophiops* Gervais 1843:191. Type species, *Carphophiops vermiformis* [= *Coluber amoenus* Say 1825:237], by monotypy.

*Brachyorrhos*: Holbrook 1842:115.

*Carpophis* Duméril 1853:442. Type species, *Calamaria amoena* Schlegel 1837:31 [= *Coluber amoenus* Say 1825:237], by page priority.

*Celuta* Baird and Girard 1853:129. Type species, *Coluber amoenus* Say 1825:237, by monotypy.

*Carphophis*: Duméril, Bibron, and Duméril 1854:131. Emendation of *Carpophis* Duméril 1853:442; preoccupied by *Carphophis* Gervais 1843:191.

*Carphoptis*: Cope 1862:249. *Ex errore*.

*Carphoris*: Hurter 1893:255. *Ex errore*.

*Carphosis*: Dunn 1928:23. *Ex errore*.

*Caryophis*: Haltom 1931:iv. *Ex errore*.

*Carphopis*: Scott and Snyder 1968:82. *Ex errore*.

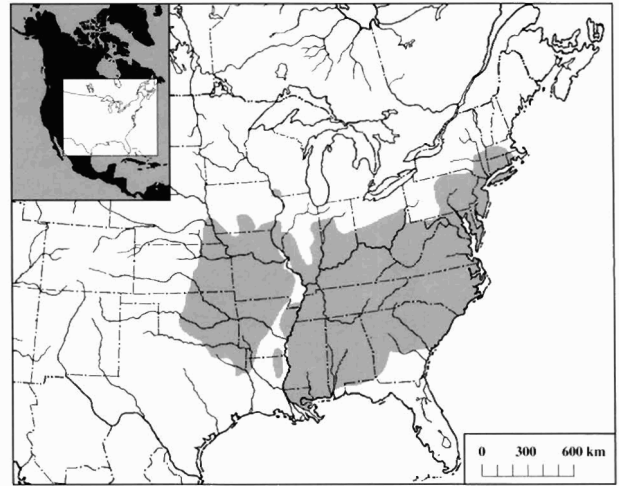
• **CONTENT.** Two species, one with two subspecies, are recognized: *Carphophis amoenus*, *C. a. amoenus*, *C. a. helenae*, and *C. vermis*.

• **DEFINITION.** Snakes of the genus *Carphophis* are slender, cylindrical, relatively short (maximum total length 39.1 cm, Conant and Collins 1998), terrestrial, semifossorial, worm and slug predators. Each trunk vertebra has a long, narrow centrum with a long, low neural arch lacking epizygapophysial spines; a long, low neural spine; a normally spatulate (broad and round) to cuneate (as opposed to ob lanceolate) haemal keel; and short, thick, flattened, prezygapophysial accessory processes. Those anterior have a well developed hypophysis. In the skull, the premaxilla is enlarged, the nasal bones are expanded dorsally, and the quadrate is shortened.

Dorsally, the body is uniform gray, gray-brown, gray-violet or dark brown; juveniles are darker than adults. The unpatterned venter is pinkish to salmon-colored, with the pigment extending upward onto the lower sides.

The head is small and depressed, and not wider than the neck. It is bluntly pointed with small black or violet eyes, and lacks any markings. The tail is short, and ends in a blunt, spine-like scale. Body scales are smooth, pitless, and may be somewhat opalescent. They normally lie in 13 rows throughout, but rarely occur in 14 or 15 rows near the vent. Beneath are 109–150 ventrals, 21–41 subcaudals in two rows, and a divided cloacal scute. Dorsal head scales include 1 rostral; either 2 separate internasals, or they are fused with the prefrontal scales; 2 prefrontals (which enter the orbit); 1 large frontal; two small supraoculars; and two parietal scales. Lateral head scales present are 1 nasal with a nearly medial naris, 1 elongated loreal (which enters the orbit), 0 (or rarely 1) preocular, 1 (rarely 2) postocular, 1+1–3 temporals, 5–6 supralabials, and 6 (5–7) infralabials. No gular scales are present between the pair of posterior chin shields and the ventral scutes.

The single, undivided hemipenis has a forked sulcus spermaticus, a calyculate crown, numerous small spines along the shaft, and three large basal hooks.



MAP. Distribution of snakes in the genus *Carphophis*.

Average tooth counts and ranges are as follows: maxilla 10–11 (9–12), dentary 16–17 (14–23), palatine 13–14 (10–17), and pterygoid 15–18 (14–19). The maxillary and mandibular teeth are small, pointed, and subequal in length.

• **DESCRIPTIONS.** General descriptions are in Holbrook (1842), Cope (1892, 1900), Boulenger (1893), Schmidt and Davis (1941), Wright and Wright (1957), and Powell et al. (1998). Specific descriptions are arranged by subject: **skull** (Clark 1970), **dentition** (Clark 1970), **vertebrae** (Auffenberg 1963, Holman 2000), and **hemipenis** (Clark 1970).

• **ILLUSTRATIONS.** Illustrations include the **skull** (Clark 1970), **maxilla** (Clark 1970), **dentition** (Clark 1970), **vertebrae** (Auffenberg 1963, Holman 2000), and **hemipenis** (Clark 1970).

• **DISTRIBUTION.** Maps are in Wright and Wright (1957), Clark (1970), Conant and Collins (1998), and Ernst and Ernst (2003).

• **FOSSIL RECORD.** Fossils are from Middle (Irvingtonian) to Late (Rancholabrean) Pleistocene deposits in Alabama, Arkansas, Florida, Georgia, Maryland, Missouri, Pennsylvania, Tennessee, Texas, Virginia, and West Virginia (Auffenberg 1963; Holman 1995, 2000). The Florida and Texas fossils are extralimital to the present geographic range of the genus, indicating a greater distribution in the past. See the accounts of *C. amoenus* and *C. vermis* (Ernst et al. 2003a,b) for specific localities.

• **PERTINENT LITERATURE.** References are arranged by topic: **systematics, taxonomy, and evolution** (Brown 1908; Dunn and Dunn 1940; Marx and Rabb 1972; Dowling et al. 1983, 1996; Cadle 1984, 1988; Williams and Wallach 1989; Buckley et al. 2000; Highton et al. 2002), **zoogeography** (Dowling 1958), **morphology** (Marx and Rabb 1972), **skeleton** (Shepherd 1974), **eye** (Underwood 1970), **ear** (Baird 1960, 1970), **lungs** (Wallach 1998), and **skin** (Woods 1973).

• **KEY TO THE SPECIES.** Parenthetical numbers refer to species accounts.

1. a. Pale ventral pigmentation extends dorsally to body scale row 1 or 2, dorsal coloration tan to dark or chestnut brown ..... *C. amoenus* (674)

- b. Pale ventral pigmentation extends dorsally to body scale row 3, dorsal coloration dark gray to gray-violet .....  
..... *C. vermis* (675)

• **ETYMOLOGY.** The name *Carphophis* is derived from the Greek words *karphos*, meaning a dry particle or twig and referring to a woodland habitat, and *ophis*, a snake.

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